tion of deaths from pulmonary phthisis, will not sustain that view. Of the 3112 deaths in the city, 515 were reported from phthisis; of 1666 deaths elsewhere, 264 were from phthisis, making within a trifle of one-sixth in both cases, the balance being slightly against the city. A few consumptive patients are sent from the city to die in the interior, but a much larger number are sent in the opposite direction, and end their lives in the hospitals of the city." In view of these facts and figures, it is fair to conclude that the climate of San Francisco is as favourable to consumptives, to say the least, as that of the interior towns. "The equable climate of the southern section of the State, its exemption from extremes of cold in winter or of heat in summer, its dry and pleasant winters, would seem to sustain the claim set up for it as a home for consumptives. But the figures do not confirm this. The number of deaths attributed to phthisis in Los Angelos, San Diego, and San Luis Obispo is 50 out of 197, or a trifle over one-fourth. Los Angelos makes the best show, phthisis being charged with one death in five, while San Diego and San Luis Obispo have one in three. From Santa Barbara we have returns for only four months, which give one of three deaths from consumption. But we must not attach too much importance to these partial returns. To be conclusive, statistics must cover a longer period of time, and cases coming from abroad must be excluded. Again, the number of deaths by consumption should be compared with the entire population, and not with the whole number of deaths from all causes; otherwise a small aggregate death-rate would give an undue prominence to the mortality from phthisis."

3. The fifth annual session of the *State Medical Society of Michigan*, June, 1871, was opened by a neat and appropriate address from the President, D. J. BARTHOLOMEW.

The first report is from the committee on the "Treatment of the Insane of the State, etc.," through its chairman, J. H. JEROME, M.D. The most interesting section of the report of the Committee on the "Mineral Springs and Wells of Michigan," is that drawn up by Dr. KEDZIE, on the magnetic condition of these wells.

In respect to the curative virtues of the several springs and wells nothing very reliable is known. In the cases of paralysis reported, there seems to be some good reason for believing that the water of these springs will prove beneficial, as also in those of neuralgia. But in the vast majority of cases, after deducting the beneficial influence of change of air, diet, habits, and associations upon invalids, there appears to the committee to be very little evidence that the waters of these springs are endowed with very special healing qualities.

The report of the Committee on "Vital Statistics," which closes the volume, is occupied with an exposition of the value of such statistics as the basis of prophylactic medicine, and of the mode of collecting the proper material for their construction. The report was presented by Dr. H. B. BAKER, Chairman of the Committee. D. F. C.

ART. XXII.—*First Annual Report of the Board of Health of the Health Department of the City of New York, April* 11, 1870, to *April* 10, 1871. 8vo. pp. 628.

So much good has been accomplished, both in sanitary reform and in scientific inquiry, by the labours of the Metropolitan Board of Health of New York, that a change in its organization may be viewed with some anxiety. It is a satisfaction to learn, however, that, in the separation of the administrative Health Department of the City from that of the "Metropolitan Sanitary District," comprising several counties, nothing appears to have been lost of the authority conferred by recent legislation; while method and energy still characterize the efforts of the Board. Bureaus of "Sanitary Inspection," and of "Vital Statistics" have been created; a revised sanitary code has been completed; and we find in this volume a number of elaborate reports, giving evidence of much activity, and presenting facts of great value to all interested (as who should not be ?) in the progress of sanitary science. We have noticed, in former numbers of the Journal, the reports of the two previous years; there is thus less of a general kind to be remarked upon now; but some of the comparative statements are important, and new subjects, with enlarged investigations of older ones, demand attention.

After the official summary by the presiding officer of the Board, the sanitary superintendent, Dr. Moreau Morris, presents the first extended report. Opening with a reference to the duties of his bureau, Dr. Morris states that *experts* are now selected by the Board for special services under its direction; educated physicians and sanitarians to inquire into causes of unhealthfulness, and skilful chemists, engineers, and mechanics for other departments. One of the most gratifying results of their continued experience has been, that, in marked contrast with former years, the health inspectors are now received in a friendly spirit by those amongst whom their duties lie, in the tenement houses and elsewhere. Increase of health and comfort seem to be growingly appreciated, even by those who have always much neglected them. One of the greatest services, perhaps, rendered by such a Board, is the *education of the public* in the application of common sense and knowledge to self-preservation and wholesome living. It has, undoubtedly, been an indispensable part of this instruction, that the Board has been enabled to *enforce* its precepts, when needful; "owners and agents having learned from experience that a prompt compliance with the orders of the Board, or even with the verbal suggestions of the inspectors, is far more profitable than any attempt at evasion or resistance through the medium of the courts." They have learned, also, that "attention to the sanitary condition of their property begets in their tenants a corresponding degree of attention and care in the use of the premises; and is, moreover, a matter of pecuniary interest, as tending directly to secure good tenants and prompt payments."

In connection with this subject, there is much interest in a communication from Dr. H. I. Bowditch of Boston, cited in this volume, concerning the success and usefulness of the London "Improved Industrial Dwelling Company." By the efforts of a liberal capitalist, Sir Sydney Waterlow, and Mr. Allen, a practical mason, over four hundred buildings have been erected for working men, combining salubrity and comfort with economy. The result has been, not only immense advantage to those for whom they were constructed, but six per cent. (or more) of annual profit to the owners. The example of such success, moreover, tends to elevate the whole character of a neighbourhood.

Of course, perfection is not to be expected. Evasion of the law has yet been practicable in New York; so that, in one tenement house, at least, but 1288 cubic feet of air are afforded to the four or six persons occupying each of its bed-rooms and living-rooms. "Gotham Court," as described by Inspector H. G. Stiles, M.D., remains to exemplify the miserable "packing-box" system in some of its worst features.

"Suffice it to say, that the two 'barrack' buildings on the court furnish tenements (two rooms each) for one hundred and forty-six families, or (averaging four persons only to a family) five hundred and eighty-four individuals, and has, at times, been packed with nearly double that number. The *roof* is a general playground for children, and *a place of deposit* for *ashes, garbage,* and to a large extent *is used as a privy* by the tenants, whom I cannot blame for preferring it to the foul, dark, and dangerous underground privies, of which more anon." . . "The *cellars* are *dark, horribly foul, and filled with mud, rubbish and human excrement.*" . . "The *privies* (which open into and are reached through the cellars) are horrible breeding tanks of disease."

"*Ventilation* of the rooms (that is, *thorough* ventilation) is *impossible* in the present state of things." . . "As a result of these conditions, I found, at the time of my visits, *thirty-six tenements unoccupied,* most of which were on the ground-floor of the main court, proving that these people, poor as they are, cannot occupy these lower rooms. . . "Gotham Court is a nuisance which, from its very magnitude, is assumed to be unremovable and irremediable. I venture to suggest that it is neither." . . . .

From such an account we turn with pleasure to the statement by Dr. C. P. Russel, in his report upon Vital Statistics, of what has actually been effected in the conflict with these enormous evils. In 1868, the tenement houses and charitable institutions (mainly supplied from the former) furnished together 75.79 of the total mortality. In 1869 they gave 68.94 per cent.; in 1870 but 66.22 per cent. of the whole mortality of the city. Here is a gain of 9½ per cent. within three years; amounting to the saving of 2600 lives, due to the sanitary improvement of houses and of their surrounding local conditions.

Upon examining the record of births, marriages, and deaths, we find some figures, not remarked upon at length in the report, which deserve a moment's attention.

The number of *deaths* for the year among natives of this country is set down as 17,461; of those of foreign birth, 9714. Natives (of both sexes) *married* during the year, 5170; foreigners, 10,319. *Births,* of native parents, 2553; both parents foreign, 9282. We do not meet with any statement of the proportion of native to foreign population in the city; but it is a noticeable fact, that while the number of deaths of natives is not very far short of being double that of foreigners, the number of marriages is about twice as large among the latter. If this be, possibly, accounted for by the majority of emigrants being young, marriageable persons, it remains to be more striking, and less easily explained, that the number of *births* of children both of whose parents are foreign is *almost four to one* of those whose parents are both native. With a certain feeling of reluctance, we cannot help seeing in these results some degree of confirmation of the much-controverted views of Dr. Nathan Allen in regard to the decline of productiveness in our American population. As with other subjects of vital statistics, however, the complexity of the problem they present enjoins great caution in drawing deductions.

The total number of deaths in New York for the year was 27,105; being in the proportion of 28.8 to 1000 of the estimated population. From the very full and well-arranged charts, we learn, amongst other points, that by far the greatest mortality occurred in July, during the hottest weather; the least, in June, November, and the latter part of January. It is interesting, in this connection, to glance across the continent, at the record for two years, of the (24) principal cities and towns of California;[1] where we find the largest number of deaths to have occurred in November and January, and the smallest, in April, May, and June. In New York, as in other years, cholera infantum and other "diarrhœal affections" have caused the mid-summer excess; 95 per cent. of the number of such deaths for the summer quarter being in children less than five years old.

---

[1] First Biennial Report of the State Board of Health of California, for the years 1870 and 1871.

From the direct effects of solar heat an unusual number of deaths took place in the same quarter; 238 in all. By the chart it appears that, while the greatest fatality from this cause (39 deaths) accompanied the highest daily temperature (July 18th), the next greatest (34 deaths) was upon a day with a maximum heat 8° lower; and this latter temperature was reached or exceeded on eight subsequent days in July and August, with only one death from solar heat on either. Some other cause besides heat alone must be here concerned. Dr. Russel alludes, without accepting it, to the hypothesis of Dr. G. Thin of Shanghae, that heat-stroke is connected in some way with electrical disturbances of the atmosphere.

Smallpox and varioloid are credited with 293 deaths for the year. This is so much less than the mortality of Philadelphia from the same cause for 1871, that it cannot be regarded as portentous. It gives occasion, however, for the following remarks from J. S. Bosworth, president of the Board, in his report:—

> "The extraordinary prevalence of smallpox over various parts of the globe, especially in countries where vaccination has long been efficiently practised; its occurrence in its most fatal form in persons who gave evidence of having been well vaccinated, and the remarkable susceptibility of people of all ages to successful vaccination, are new facts in the history of this pestilence which must lead to a reinvestigation of the whole subject of vaccination, and of its claims as a protecting agent. There can be no doubt that there is a growing scepticism in the public mind as to the real value of vaccination, and this scepticism has been much strengthened by the repeated occurrence of smallpox, during the past year, in persons who were presumed to have been properly vaccinated. But the medical profession, and especially the more advanced students of contagious diseases, hold firmly to the faith of Jenner, that vaccination is a sure preventive of smallpox when the individual is brought completely under its influence."

Our confidence remains assured in the doctrine expressed in these last words; but, undoubtedly, recent experience has placed emphasis upon the requisite *conditions* for the protective agency of vaccination; it affords security only "*when the individual is brought completety under its influence.*" The era of *careless* vaccination, as mere routine, must end; revaccination (at least once) must be made, not optional, but universal; and as much care, with repetition upon failure, must be used with the second as with the first operation. We cannot quite accord with Dr. Russel in his apprehension of there being evidence of the action of some "occult laws" determining the epidemic prevalence of smallpox, in the fact that, in Scotland, in 1865, two years after the enactment of a compulsory vaccination law, variola was more prevalent and fatal than in 1858, before its passage. The time, we conceive, had not then sufficed for the full enforcement of the law to take effect. Three years later it was recorded that smallpox had almost disappeared from Scotland, as well as from Ireland. The Sanitary Committee of the New York Board, consisting of Drs. G. Ceccarini, M. Gross, and S. Smith, urges the importance, in addition to thorough vaccination, of *isolation of the sick*, and *local disinfection*, against smallpox, as well as against other contagious diseases. It is insisted, also, that special hospitals for such maladies should be placed under the immediate control of the Board of Health. The compulsory removal to hospitals of patients affected with contagious disorders has sometimes been deemed necessary.

A report upon *Disinfection*, embodying the recent experience of the officers and agents of the Board, is presented by H. Endemann, Ph.D., Assistant Chemist. It pronounces favourably in regard to the value of lime, as the cheapest and most effectual disinfectant for gutters; and states the failure, upon trial, of the "dead," or heavy oil of coal tar now in market, asserted to be deprived of its carbolic acid by treatment with soda. This acid, in a 70 per cent. solution, is employed for the disinfection of basements, cellars, and privies. For the same purposes, use is made of strong solutions of protosulphate and of sesquichloride of iron, to either of which a dilute solution of carbolic acid (10 per cent.) may be added. For clothing and bedding, the preferred disinfectant is a solution of sulphate of zinc, eight ounces in three gallons of water; with or without the addition of one ounce of carbolic acid. Chloride of lime and sulphurous acid are also favourably spoken of.

Relapsing Fever is the subject of an elaborate and very interesting report by Dr. Stephen Smith, upon materials largely furnished by Dr. E. Harris, of the Metropolitan Board. Opening with a full account of the previous history of the disease in different parts of the world, Dr. Smith gives the particulars of its course in 1869–70 in New York. It began in October, 1869, in an "old rookery" on the Five Points. All the tenements and localities, then and afterwards, the centres of origin of relapsing fever, were resorts of vagrants, and were permanently filled by the most degraded of the tenement-house population. In November, the first cases were admitted into the hospitals. At Bellevue, the disease commenced to spread in January; two physicians, several nurses and patients, in immediate contact with those sick with fever, were attacked.

A Relapsing Fever Hospital was opened on Hart's Island in February. In this institution, also, officers and inmates were affected; viz., two of the medical staff, seven nurses and orderlies, and many other attendants—three of whom died. The total number of deaths for the year, from this disease, in New York, was 184; of cases reported, 2181—a mortality of about 1 in 11. Probably a considerable number of cases were not reported.

Professors Clarke, Flint, and Loomis are quoted at some length, upon the clinical history of relapsing fever. We have room to cite only the main points made out by them and Dr. Smith in his careful researches. These are, that the period of incubation is very uncertain; the invasion, almost always abrupt; duration of the first stage, from two to twelve days, mostly between five and seven; that of the second stage, four to eight days; of the period of relapse, from three and a half days to seven. The time of highest temperature is not the same in all cases. In one instance, observed by Prof. A. Clark, it reached 108½° on the third day of the relapse; in another, it stood at 107° for two or three days; both of these patients recovered. Almost every case presented a higher temperature during the relapse than during the primary paroxysm; and in nearly all it fell below the natural standard in the defervescence. In one case it remained at 95½° for two days.

Upon the question of the origin of relapsing fever in New York, Dr. Smith does not seem to be prepared for a decision. He regards its importation as most probable. As to its contagiousness, this, he remarks, "was recognized by even the most casual observer." After reading with care the evidence given of this in the present report, it does not seem to us possible to arrive at any other conclusion. Yet *local* and *personal* influences are manifestly important elements, in accounting for the different degrees of susceptibility. As Dr. E. Harris states, "thirty-eight fever nests" included nearly two hundred of the cases.

Personal predisposition to this fever has everywhere been observed to be connected, in a marked degree, with destitution. "It clearly sought and found its victims, by preference, among that homeless class of people who wander about the city by day, eating the food which they beg from door to door, or pick up in the streets, and who crowd together at night in damp and filthy cellars and unventilated apartments." Individual exceptions occurred, as when physicians or others were especially exposed to the contagion; but it never showed the slightest tendency to prevail among the better classes.

The sanitary measures employed by the Board to contend with and arrest the spread of relapsing fever were isolation of patients, and the thorough cleansing and disinfection of infected apartments. Of the results, Dr. Smith writes that "thorough cleansing and disinfection were almost invariably followed by a complete arrest of the fever in the tenements thus treated. The experience of the medical officers in the application of preventive measures was most gratifying." The epidemic attained its culmination in the second quarter of 1870, and from that time gradually declined. The highest number of cases (one hundred) was reported April 2 ; at the same date in 1871, the disease had almost entirely disappeared.

Yellow Fever is made the subject of a very interesting report from Dr. M. Morris, City Sanitary Inspector, including an elaborate discussion of the causation and prophylaxis of that disease by Dr. J. C. Nott, formerly of Mobile, whose long experience in the "fever zone" in the south was wisely called into service by the Board. The occasion of these labours was the occurrence of yellow fever at Governor's Island, in September and October, 1870, with a few cases in the city of New York. These last cases—eleven in number—were, by the Special Committee of the Board, Drs. M. Morris, and J. M. Cornochan (health officer), and G. Ceccarini, all traced directly to Governor's Island. They were either soldiers absent from the island on leave, or nurses, relatives, or friends of those resident upon it, and had evidently contracted the disease upon the island. The committee at once advised the removal of all those sick on the island to West Bank Quarantine Hospital, and placing the island under strict quarantine; "no communication being allowed by any soldiers or residents with the infected quarters, until after frost shall have rendered these restrictions unnecessary." Gen. McDowell promptly gave orders to have these measures carried out—the island being, as a station for recruits, entirely under the control of United States government.

Later (Oct. 8) it was concluded to recommend further action; namely, the entire evacuation of Governor's Island ; all clothing, bedding, and other textile fabrics there in use to be disinfected by steam-heat; the old wooden buildings known as the "Camp Women's Quarters," and the "Row," near the South Battery, to be torn down and burned, and their basements or cellars to be filled up. Upon these propositions, a correspondence ensued with Gen. McDowell, whose response, declining to carry them out, is given in full. We apprehend that while the most measured courtesy is, perhaps, apparent on the part of the committee of the Board, the position taken by the military commander is quite as easily reconciled with sound logic, and with his duty to the men under his charge. As to the proposal to vacate the island, he thus writes :—

> "Governor's Island has been in quarantine since last Friday week, the most noticeable infraction of it being, as I understand from this report, by the committee of the Board itself, who it seems visited the Island and then returned to the city, a course which, in carrying out what I supposed to be the wish of the Board of Health, I have not suffered any one in the military service to follow. The committee of the Board say new cases are occurring daily, that everything now belonging to the inhabitants should be disinfected, and I have been called upon to keep the island in quarantine, but now the Board ask that, with a few exceptions, all in it should be made to leave it. Some of them, it is to be presumed, have already become infected. Shall these people, some eight hundred men, women, and children, be brought to the city? or shall they be sent inland ? What community would, under the circumstances, consent to receive them? There is no other place I know of where they could be sent where they would or could be so isolated as where they now are."

If the Board had been well grounded in its first requisition, that a strict personal quarantine should be maintained at the island, these objections of Gen. McDowell would have been entirely valid; as such non-intercourse can be only justified by the assumption of the *personal contagiousness* of yellow fever; and even the noble self-sacrifice of the committee, in visiting the island, at the risk of their lives, would have been misplaced. But the more deliberate action of the Board was based upon another principle. In its different utterances we cannot fail to see some inconsistency. On one page of the committee's report, when referring to the eleven persons who escaped from the island, or visited it and returned to the city, it is said that "all such persons have been carefully sought for throughout the city by the Health Inspectors, and every possible care taken to prevent any detriment to the public health by *exposure to these individuals.*" (The italics are ours.) And on the same page (p. 343), it is again written that "the removal of the troops and other persons, with the precautions advised, would not, it is believed, convey the disease to any other locality, and might save much sickness and many lives." We remark upon this because it exemplifies a kind of indecision or contradiction not now uncommon, but sometimes disastrous in its results. The committee's report speaks of it as the belief "now universal in the medical profession, that the yellow fever poison is not conveyed from place to place in the person." The conveyance by *fomites*, mentioned as taking the place of the idea of contagion, we may refer to again presently. But it would be well if all the profession were fully agreed upon this first point, most emphatically brought out and strongly supported by Dr. Nott, in his report in this volume; that the special cause of yellow fever, the "germ," as he calls it, "*is not bred in the human body*;" "it is never *personally contagious;* though *sometimes* conveyed by vessels, and *sometimes* taken in trunks, boxes, etc.," from place to place.

The requirement of the Board that Governor's Island should be evacuated was judicious, though tardy. Abundant evidence has been brought in favour of this as a principle. We may cite its declaration as long ago as 1825, by Dupuytren, before the Academy of Sciences in Paris:[1] "We should therefore regard as incontestable the principle which consists of evacuating immediately the places where yellow fever is declared to be, and everything for this purpose should be adopted. The utility of such a measure must always justify its rigorous execution." Sometimes it becomes wearisome to go repeatedly over an old argument. But what else can be done, until a truly *final* consistent conclusion be reached? We hold, with Dr. La Roche, that this finality must include the *total abolition of personal quarantine.* It is *à propos* to cite this distinguished writer's latest utterance on the subject; in his exhaustive report to the Board of Health of this city, "On the Origin and Mode of Progression of Yellow Fever in Philadelphia in 1870."[2] Thus he writes: "It is needless to quarantine individuals arriving at the lazaretto in infected or suspected vessels from sickly parts, whether those individuals be in health or labouring under the fever—the necessity of such measures being disproved." A somewhat hesitating adoption of the same conviction appears in the action of the Philadelphia Board of Health[3] in 1870. "As regards the crew (of the infected brig Home) the Board resolved, on the 2d of July, that they be permitted to leave the station with the consent of the lazaretto physician." This consent being withheld, the Board again resolved, July 13th, "that the stevedores, and the crews of the lighters engaged in the discharge of the brig Home, be permitted to come up to the city, if in the opinion of the lazaretto physician it can be done in safety to the inhabitants." It would seem that this last condition, attached to the Board's resolution, along with the prepossessions of the physician, Dr. Thompson (himself soon after a victim to the disease), may have cost several lives. Dr. H. E. Goodman[1] states that, of those who took directly to the city the first barge that received a cargo from the Home, no one was attacked; while, after the date of the second resolution of the Board (July 13), four persons died, all of whom were connected with the barges near the infected vessel. We would express our conviction upon this subject in the emphatic language of Dr. Reese of New York[2], uttered many years since:—

---

[1] Second Report on Quarantine, Gen. Board of Health, London, 1852, p. 204. "From Barcelona, in 1821, about 80,000 persons fled; and excepting those ill on leaving, all were exempt from the malady. Of those remaining in the city, nearly 10,000 died."

[2] Report of the Board of Health of Philadelphia, for the year 1870, p. 85, Appendix.

[3] La Roche, Report, etc., p. 22.

> "I am of opinion that the oppressive features of our quarantine system should be reckoned among the relics of barbarism which an enlightened legislature should make haste to abrogate for the sake of our character as a people. There is no pretext for the perpetuation of a system founded in ignorance, and fruitful only in public and private injustice, cruelty, and wrong."

When all sanitary authorities shall agree to insist upon the most *rigorous inspection* and *effective purification* of every *vessel* coming from the yellow fever zone during warm weather, and (while the idea of *fomites* is still entertained by some), the proper disinfection of all movable goods and cargoes—the removal of all persons from infected vessels will tend to *expedite such* measures, and thus to prevent the concentration of the poison. Towards such a conclusion, the able treatise of Dr. Nott in this volume is an important contribution; as it draws so clear and strong a distinction between *contagion* and *portability*, and affords most cogent evidence against the former being an attribute of yellow fever. At the same time the views of Dr. Nott do not appear to be all quite unassailable; especially in regard to the existence of two *species* or types of yellow fever, the one portable and the other not.

Many other subjects, besides those we have referred to, might, as they are dealt with in this report, detain our attention longer. But we must close with brief reference to one of them alone. On *Sanitary Engineering*, two reports are presented, by Egbert L. Viele and Chas. H. Haswell. Both dwell upon certain evils connected with the growth of the city of New York, the prevention of which should be a primary object in every municipality. Says E. L. Viele (p. 413):—

> "One of the chief causes of mortality is to be found in the defective drainage of certain districts of the city; and this is an evil which is mainly increased by the so-called city improvements, or grading of streets and avenues which are now being carried forward.
>
> "Geologically the island of New York is a metamorphic granite or granitic gneiss, whose originally horizontal planes of lamination have been disturbed and thrown up. . . . . . An extremely irregular surface has thus been formed, with numerous valleys, through which originally flowed many drainage streams, receiving their supply not only from the surface drainage but also from innumerable perpetual springs percolating through the planes of lamination. . . . There are plague-spots and fever-nests which exist in the vicinity of old obstructed drainage streams, which no sanitary regulations can eradicate. . . . . . Every day the progress of population, the extension of

---

[1] Report of Phila. Board of Health, 1870, pp. 59, 60.

[2] Evidence before the N. Y. State Committee on Quarantine; Albany, 1845.

streets, and erection of buildings, increase the obstacles which have to be removed, and will in a short space of time be insurmountable, except at an enormous expense. . . . . . It is important that the avenues of communication should be laid out in accordance with a harmonious general plan. Unless a comprehensive system is established in advance of private improvements, it becomes a matter of great difficulty and sometimes an impossibility to correct the evils that may arise."

We have been able to do, we fear, but scanty justice to the valuable papers contained in this Report; but the limited access of readers, generally, to such documents makes it desirable to place some of its most important matter before the profession. We know of no better *data* for the study of practical public hygiene. H. H.

ART. XXIII.—*Earth as a Topical Application in Surgery. Being a full exposition of its use in all the cases requiring topical applications admitted into the men's and women's surgical wards of the Pennsylvania Hospital during a period of six months in* 1869. By ADDINELL HEWSON, M.D., one of the attending Surgeons to the Pennsylvania Hospital. With four Photo-relief illustrations. 12mo. pp. 309. Philadelphia: Lindsay & Blakiston, 1872.

How best suppuration can be prevented, or at least restrained, is a problem that during the last ten years especially has engaged the attention of practical surgeons; and with good reason too, for the comfort of the patient, and still more the life of the part, if not of the whole, is involved in its solution. Suppuration being always the result of over-stimulation, the great desideratum is a dressing that shall prevent irritation; and as in the majority of cases it is external influences that unduly stimulate, what is most usually necessary is the protection of the wound against such disturbing causes, be they chemical or mechanical. Is it the air itself that irritates, or living organisms in the air? The question is unsettled and surgeons have shaped their practice according to their beliefs. Maisonneuve, with his rubber cap, would exclude the air altogether; Lister, with his carbolized gauze, destroy the living organisms before permitting the air to reach the wound; Guérin, filter the air of such organisms by passing it through cotton; some by the topical application of an albumen-coagulating agent form a pellicle "prohibiting the germinal cells below the stratum of coagulum from the deleterious action of the atmosphere, just as the epidermis protects the true skin," and this on either the oxygen or germ theory.

Dr. Addinell Hewson, recognizing the value of earth in the disinfection of animal excreta, has for three years been testing its value as a surgical dressing, and in the monograph under review has given the details of his first series of cases, 93 in number; "all the cases requiring topical application admitted in the men's and women's wards of the Pennsylvania Hospital during a period of six months in 1869."

"I have been compelled to confine myself on the present occasion to an exposition of my first six months' experience only. I have not done this, however, without some satisfaction, for my inferences of those times have not only been thoroughly confirmed by more recent experiences, but there were numerous and constant witnesses of the cases, and by giving the details of *all* of them, I avoid the suspicion of suppressing anything which could have then led me to other conclusions, and they furnish the fairest means of judging of the correctness of the views which I now hold."